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William C. Kimbrell

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P.O. Box 1926  
Spartanburg, SC 29304

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JUSKA, CHERYL ANN

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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* WILLIAM C. KIMBRELL, SHULONG LI, and  
DAIKE WANG

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Appeal 2009-006931  
Application 10/699,899  
Technology Center 1700

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Before TERRY J. OWENS, TONI R. SCHEINER, and MARK NAGUMO,  
*Administrative Patent Judges.*

OWENS, *Administrative Patent Judge.*

DECISION ON APPEAL<sup>1</sup>  
STATEMENT OF THE CASE

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<sup>1</sup> The two-month time period for filing an appeal or commencing a civil action, as recited in 37 C.F.R. § 1.304, or for filing a request for rehearing, as recited in 37 C.F.R. § 41.52, begins to run from the “MAIL DATE” (paper delivery mode) or the “NOTIFICATION DATE” (electronic delivery mode) shown on the PTOL-90A cover letter attached to this decision.

The Appellants appeal under 35 U.S.C. § 134(a) from the Examiner's rejection of claims 7, 9-17, 50 and 51, which are all of the pending claims. We have jurisdiction under 35 U.S.C. § 6(b).

*The Invention*

The Appellants claim a floor covering such as a carpet comprising a scoured substrate to which a composition has been applied to impart soil resistance and stain resistance.<sup>2</sup> Claim 7 is illustrative:

7. A floor covering having an applied composition for imparting soil resistance, stain resistance, and stain release, said floor covering comprising:

- (a) a scoured substrate having fibers forming a pile;
- (b) a composition applied to said scoured substrate, said composition comprising:
  - (i) a first fluorochemical repellent component, said fluorochemical repellent component being provided at a concentration of at least about 0.1% SOC;
  - (ii) a second stain blocking component, said stain blocking component being selected from one or more of the group consisting of: sulfonated novolak resins, acrylic polymers, sulfonated polyester polymers, sulfonated surfactants, fluorochemical agents, acid-containing acrylic or acrylate polymers and copolymers, ethoxylated polyesters, ethoxylated nylon, cellulose derivatives, polyacrylamides, and sulfonated polymers;

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<sup>2</sup> The Appellants state that “[s]couring is the process of immersing a carpet in a bath of cleaning solution or spraying a cleaning solution onto the textile, followed by removal of the contaminants and solution such as for instance by vacuuming. The cleaning solution reduces that amount of oil residue in the fibers and/or backing of the carpet” (Spec. 7:11-14).

(iii) an inorganic particulate component, said inorganic particulate component being selected from the group consisting of: silica-containing materials, zirconium-containing materials, titanium-containing materials, alumina-containing materials, inorganic oxide materials, basic metal salt materials, and metal oxide materials; and

(iv) a hydrophobic cross-linking agent;

wherein said composition is adapted for imparting substantial stain resistance and stain release to said floor covering.

#### *The References*

McBride	5,573,553	Nov. 12, 1996
Wang	5,908,663	Jun. 1, 1999
Rearick (Rearick '639)	2002/0064639 A1	May 30, 2002
Fitzgerald	6,451,717 B1	Sep. 17, 2002
Rearick (Rearick '072)	2004/0058072 A1	Mar. 25, 2004
	(effective filing date Sep. 28, 2001)	

#### *The Rejections*

The claims stand rejected under 35 U.S.C. § 103 as follows: claims 7, 9-11, 13-17, 50 and 51 over Wang in view of Rearick '639 and/or Rearick '072 and over Wang in view of Fitzgerald, and claim 12 over Wang in view of Rearick '639 and/or Rearick '072, further in view of McBride and over Wang in view of Fitzgerald and McBride.

#### OPINION

We affirm the rejections.

#### *Issue*

Have the Appellants indicated reversible error in the Examiner's determination that the applied prior art would have rendered prima facie obvious, to one of ordinary skill in the art, applying Wang's composition,

modified in view of Rearick '639, Rearick '072 or Fitzgerald, to a scoured carpet?

*Findings of Fact*

Wang discloses a topical treatment composition for imparting soil resistance to carpets (col. 1, ll. 4-6). The composition can contain a repellant fluorochemical, a stain blocking component which can be a blend of sulfonated novolac and acrylic resins, and an inorganic oxide particulate component which can be an oxide of silicon, zirconium, titanium or aluminum (col. 3, l. 52 – col. 5, l. 44; col. 7, ll. 2-6; col. 7, l. 31 – col. 10, l. 63). Wang states that “it appears that the residual oils or spin finish on the surface of the carpet fibers are adsorbed into the surfaces of the inorganic additive, where they are no longer able to contribute to the soiling or soiling tendencies of the carpet” (col. 2, ll. 54-58). The purpose of Wang’s composition is to obviate the need for scouring (abstract) which, Wang states, “typically involves immersing the finished carpet in a bath of aqueous cleaning solution [which] effectively reduces the amount of oil residue on the carpet to a level that does not significantly affect the soil resistance of the carpet” (col. 1, ll. 56-60). Wang’s composition is applied to scoured carpet in comparative examples (col. 11, l. 58 – col. 12, l. 67; Tables 1-4).

Rearick '072 discloses that applying a crosslinkable hydrophobic water and oil repellant fluorochemical with a crosslinking agent to a fabric can provide durability to many home launderings (¶¶ 52, 62, 138).<sup>3</sup>

Fitzgerald discloses an aqueous emulsion that imparts oil and water repellency to textiles and is made by a method comprising polymerizing a monomer mixture and then adding a blocked aromatic isocyanate (which,

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<sup>3</sup> We need not discuss Rearick '639 of which Rearick '072 is a divisional.

the Examiner argues (Ans. 5), is a hydrophobic crosslinking agent) (col. 2, ll. 18-64; col. 5, ll. 7-21).<sup>4</sup>

*Analysis*

The Appellants argue that Wang's composition adsorbs residual oils and/or spin finish on the surface of carpet fibers, and that one of ordinary skill in the art would not have applied Wang's composition to scoured carpet because scoured carpet contains very little residual oil or spin finish (Br. 6).<sup>5</sup> The Appellants state in their Specification that "Wang indicates that there is virtually no improvement in antisoiling performance that may be achieved in the case of scoured carpet. See Wang, column 18, lines 1-16" (Spec. 3:26 – 4:2). The Appellants argue that the applied references do not suggest that Wang's composition can perform a function other than adsorbing residual oils and spin finish (Br. 7, 10).

The Appellants do not argue that it would have been unobvious to one of ordinary skill in the art to modify Wang's composition as proposed by the Examiner. The only question is whether it would have been prima facie obvious to one of ordinary skill in the art to apply the modified composition to scoured carpet.

Wang's Table 1 shows that applying the composition to unscoured carpet reduced the  $\Delta E$  from 18.68 (Ex. C1) to 10.81-15.21 (Ex. 1-4).<sup>6</sup>

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<sup>4</sup> We do not discuss McBride because the Appellants do not provide a substantive argument as to the separate patentability of dependent claim 12 to which it is applied.

<sup>5</sup> Like Wang's particles the Appellants' "[p]articles may adsorb oily substances on the surface of the fiber thereby decreasing soil attraction" (Spec. 20:6-7).

<sup>6</sup>  $\Delta E$  is a calculated color difference between a soiled (walked upon) carpet sample and its unsoiled counterpart (col. 14, ll. 9-26).

Table 1 shows that applying the composition to scoured carpet reduced the  $\Delta E$  in 3 experiments (from 9.84 (Ex. C6) to 7.70-8.63 (Ex. C2-4)) but increased it in 1 experiment (from 9.84 (Ex. C6) to 10.01 (Ex. C5)).

Regarding Table 1 Wang states that in the comparative experiments in which the composition was applied to scoured carpet “the improvements in anti-soiling performance as compared to untreated scoured polypropylene carpet (Comparative Example C6) were relatively small” (col. 17, ll. 7-9).

Wang’s Table 2 shows that applying the composition to unscoured carpet reduced the  $\Delta E$  from 18.68 (Ex. C7) to 10.30-13.88 (Ex. 5, 6, 8-12). Table 2 shows that applying the composition to scoured carpet reduced the  $\Delta E$  in 5 experiments (from 9.85 (Ex. C16) to 8.25-9.84 (Ex. C8, C9, C11-13)) but increased it in two experiments (from 9.85 (Ex. C16) to 10.90-10.95 (Ex. C14-15)). With respect to Table 2 Wang states that in the comparative experiments in which the composition was applied to scoured carpet “the improvement in anti-soiling performance as compared to untreated scoured polypropylene carpet (Comparative Example C16) was relatively small or nonexistent” (col. 18, ll. 12-15).

All disclosures in a reference must be evaluated for what they would have fairly suggested to one of ordinary skill in the art. *See In re Boe*, 355 F.2d 961, 965 (CCPA 1966). Although the improvement disclosed by Wang when the composition was applied to scoured carpet was less than when the composition is applied to unscoured carpet, Wang’s disclosure that applying the composition to scoured carpet can produce a relatively small improvement in soil resistance would have led one of ordinary skill in the art, through no more than ordinary creativity, to apply Wang’s composition modified in view of Rearick ‘072 or Fitzgerald to scoured carpet to obtain

that relatively small soil resistance improvement. *See KSR Int'l. Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007) (In making an obviousness determination one “can take account of the inferences and creative steps that a person of ordinary skill in the art would employ”).

The Appellants do not show, or even argue, that their composition applied to scoured carpet provides better soil or stain resistance than Wang’s composition.

*Conclusion of Law*

The Appellants have not indicated reversible error in the Examiner’s determination that the applied prior art would have rendered prima facie obvious, to one of ordinary skill in the art, applying Wang’s composition, modified in view of Rearick ‘639, Rearick ‘072 or Fitzgerald, to a scoured carpet.

DECISION/ORDER

The rejections under 35 U.S.C. § 103 of claims 7, 9-11, 13-17, 50 and 51 over Wang in view of Rearick ‘639 and/or Rearick ‘072 and over Wang in view of Fitzgerald, and claim 12 over Wang in view of Rearick ‘639 and/or Rearick ‘072, further in view of McBride and over Wang in view of Fitzgerald and McBride are affirmed.

It is ordered that the Examiner’s decision is affirmed.



Appeal 2009-006931  
Application 10/699,899

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a).

AFFIRMED

kmm

LEGAL DEPARTMENT (M-495)  
P.O. BOX 1926  
SPARTANBURG, SC 29304